

In the latest note¹³ GUIGNARD adds a considerable number of Rosaceae, of the tribes Pruneae and Spiraeae, whose leaves and other parts furnish hydrocyanic acid.—C. R. B.

Sexuality of the Uredineae.—In 1904 BLACKMAN¹⁴ showed that a peculiar process of fertilization occurs in the aecidium of *Phragmidium violaceum*, by which a nucleus from a vegetative cell of the mycelium migrates into a fertile cell, and thus brings about the condition of paired nuclei found by SAPPIN-TROUFFY¹⁵ to be quite universal in the teleutospore-bearing mycelium. Two questions naturally arise as a result of this work. First, since the aecidium of *P. violaceum* is of a special type, how far will this process of fertilization be found to explain the origin of conjugate nuclei in aecidia generally? Second, what process takes place in those forms which have no aecidium? Both of these questions BLACKMAN and FRASER¹⁶ attempt to solve in a later contribution to the cytology of the Uredineae. In *Uromyces Poae* Raben. and *U. Poarum* Neil., both of which are *eu*-forms with typical aecidia, the migration of nuclei from one vegetative cell to another was observed in the tissue of the aecidium. These migrations were not so easily distinguished as in *P. violaceum*. In *Melampsora Rostrupi* Wagn., which has aecidia of the caecoma type, no fertilization was discovered, but there were some evidences that fertilization took place in the manner described by CHRISTMAN for *Phragmidium speciosum*. In *Puccinia Malvacearum* Mont., a *lepto*-form, the change from uninucleate to binucleate cells takes place in the hyphae of the teleutosorus, but the exact method could not be determined; neither could the transition be made out in the *micro*-forms *P. Adoxae*, D. C., *U. Scillarum* Wint., and *U. Ficariae* Lév.—H. HASSELBRING.

The filiform apparatus.—Striations on the micropylar portion of synergids were described in 1856 by SCHACHT, who called them "fertilization threads" (*Beifruchtungsäden*); HOFMEISTER gave the name "filiform apparatus" (*Fadenapparat*); STRASBURGER in 1882 believed the lines or threads consisted of fine pores. A paper by HABERMANN¹⁷ now brings modern technic and modern lenses to bear upon the subject. The filiform apparatus, more or less developed, is characteristic of angiosperms generally. The apparatus arises by the transfor-

¹³ ———, Nouveaux exemples de Rosacées à acide cyanhydrique. Compt. Rend. Acad. Sci. Paris 143:451. Oct. 1. 1906.

¹⁴ BLACKMAN, V. H., On the fertilization, alternation of generations, and general cytology of the Uredineae. Annals of Botany 18:323-373. pls. 21-24. 1904.

¹⁵ SAPPIN-TROUFFY, P., Recherches histologiques sur la famille des Uredinées. Le Botaniste 5:59-244. figs. 68. 1896-7.

¹⁶ BLACKMAN, V. H., and FRASER, MISS H. C. I., Further studies on the sexuality of the Uredinaceae. Annals of Botany 20:35-48. pls. 3-4. 1906.

¹⁷ HABERMANN, ALFRED, Der Fadenapparat in den Synergiden der Angiospermen. Beih. Bot. Centralb. 20:300-317. pl. 13. 1906.